

The future of college student surveys

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Background

Representation
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Coverage error

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Our goal

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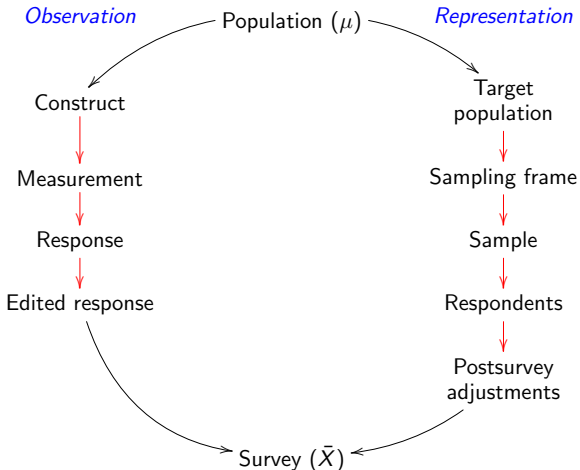
Questions

Population (μ)



Survey (\bar{X})

Where problems can occur



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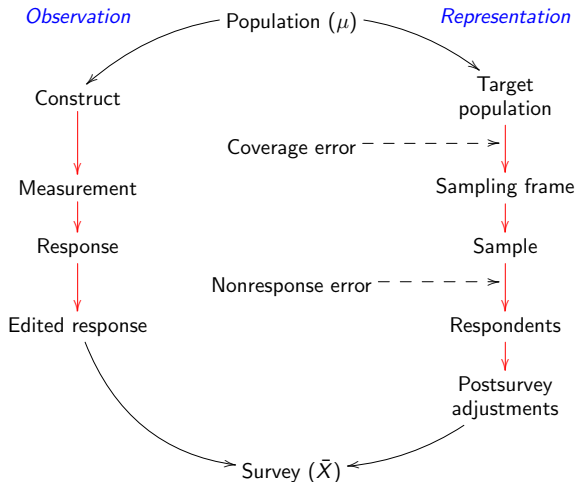
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Problems with representation



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Response rates over time

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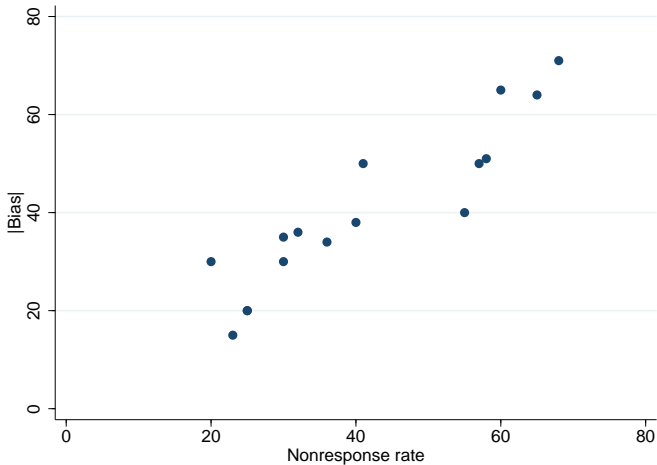
Surveys Face Growing Difficulty Reaching, Persuading Potential Respondents

	1997	2000	2003	2006	2009	2012
	%	%	%	%	%	%
Contact rate (percent of households in which an adult was reached)	90	77	79	73	72	62
Cooperation rate (percent of households contacted that yielded an interview)	43	40	34	31	21	14
Response rate (percent of households sampled that yielded an interview)	36	28	25	21	15	9

PEW RESEARCH CENTER 2012 Methodology Study. Rates computed according to American Association for Public Opinion Research (AAPOR) standard definitions for CON2, COOP3 and RR3. Rates are typical for surveys conducted in each year.

<http://www.people-press.org/2012/05/15/assessing-the-representativeness-of-public-opinion-surveys/>

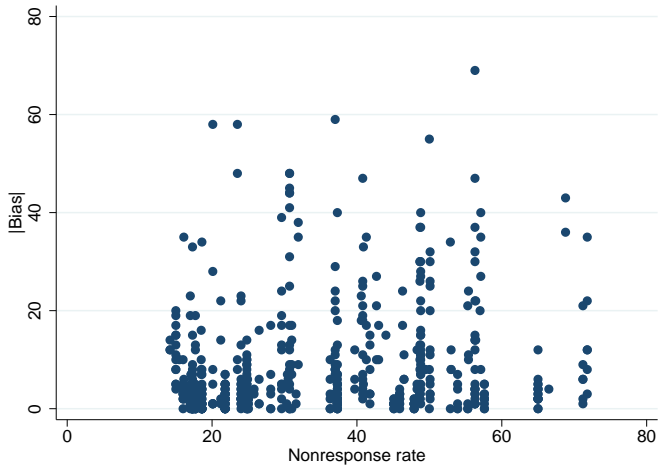
Expected relationship between response rates and bias



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What Groves and Petcheva (2008) found from 59 surveys



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Coverage error vs. nonresponse error

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Classroom surveys yield in theory a 100% response rate

- So who does not take the survey?

Coverage error vs. nonresponse error

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Classroom surveys yield in theory a 100% response rate

- So who does not take the survey?
- Coverage error could be substantial

Coverage error vs. nonresponse error

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Web surveys include all students, so no coverage error

- Response rates are typically low

Coverage error vs. nonresponse error

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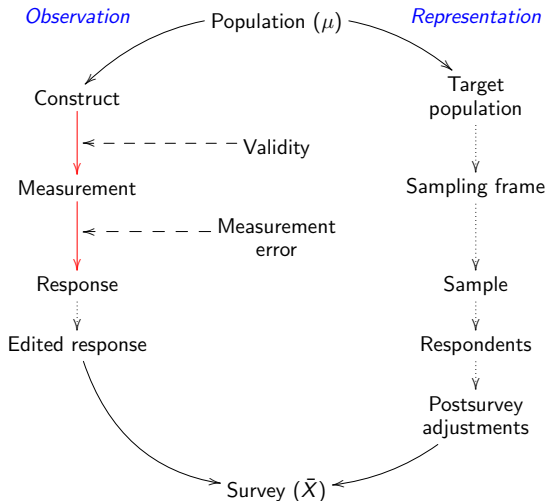
Web surveys include all students, so no coverage error

- Response rates are typically low

Important issue for community colleges, but we know little

- Perhaps the two errors have similar effects?

Problems with observations



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Answering a typical survey question

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In your experiences at this college during the current academic year, about how often have you done each of the following?

Come to class without completing readings or assignments?

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In your experiences at this college during the current academic year, about how often have you done each of the following?

Come to class without completing readings or assignments?

- 1 For each course, encode in memory the number of times came to class unprepared over an entire year

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In your experiences at this college during the current academic year, about how often have you done each of the following?

Come to class without completing readings or assignments?

- 1** For each course, encode in memory the number of times came to class unprepared over an entire year
- 2** Understand exactly what “completing readings or assignments” means

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- 2** Understand exactly what “completing readings or assignments” means
- 3** At end of school year, retrieve these numbers from memory
- 4** Combine them to come up with total number of times
- 5** Map this number to a vague response scale: *very often, often, sometimes, never*

Memory and recall

Garry et al. (2002) asked 37 college students to complete a daily sex diary via email for 1 month.

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Surveyed 6 to 12 months later about sexual activity during the diary phase.

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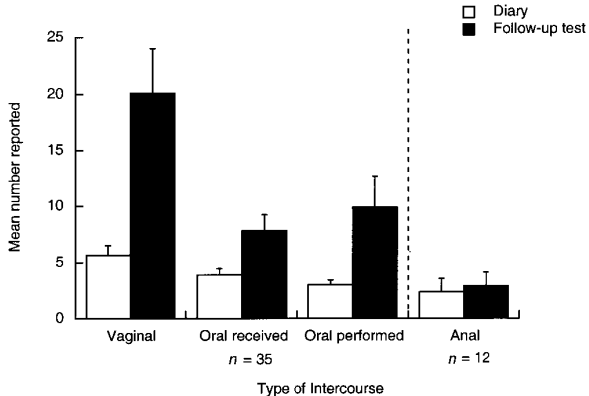
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Response scale

How many hours per day do you typically study? Would you say ...

	Scale A	Scale B
	½ hour or less	
	From ½ to 1 hour	
≤ 2.5 hours	From 1 to 1½ hours	
	From 1½ to 2 hours	
	From 1½ to 2½ hours	2½ hours or less
	Or more than 2½ hours	From 2½ to 3 hours
		From 3 to 3½ hours
> 2.5 hours		From 3½ to 4 hours
		From 4 to 4½ hours
		Or more than 4½ hours

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≤ 2.5 hours	From 1 to 1½ hours	
	From 1½ to 2 hours	
	From 1½ to 2½ hours	2½ hours or less
	Or more than 2½ hours	From 2½ to 3 hours
		From 3 to 3½ hours
> 2.5 hours		From 3½ to 4 hours
		From 4 to 4½ hours
		Or more than 4½ hours

Percentage of students reporting activities > 2.5 hours

	Scale A	Scale B
Studying	29	71
Using computer	34	66
Watching TV	8	21

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Current state of student surveys

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- 1** We ask students about frequent, mundane events they don't care about.

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- 1** We ask students about frequent, mundane events they don't care about.
- 2** These events are not encoded in their memory, so students construct answers as they take our surveys.

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- 1 We ask students about frequent, mundane events they don't care about.
- 2 These events are not encoded in their memory, so students construct answers as they take our surveys.
- 3 We use vague language in questions, so there is no common understanding of terms.

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- 1** We ask students about frequent, mundane events they don't care about.
- 2** These events are not encoded in their memory, so students construct answers as they take our surveys.
- 3** We use vague language in questions, so there is no common understanding of terms.
- 4** We use vague response scales, with no common understanding of categories.

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- 1 We ask students about frequent, mundane events they don't care about.
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- 3 We use vague language in questions, so there is no common understanding of terms.
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Characteristics of academic surveys	Reason
Lengthy surveys with many questions	Need scales acceptable to other academics Need variables for statistical models
Items are vaguely worded	Must have items that are comparable across schools
Surveys are rarely altered over time	Change calls into question findings from their previous research

What does the future hold?

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Different approaches to asking questions

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Not much more we can do about response rates at this point

- Instead, focus on question wording

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Not much more we can do about response rates at this point

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Some possibilities:

- More specific language in questions
- More specific response scales

Asking questions better

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Questions

0%  100%

Have you contacted or interacted with the **Academic Excellence Center** during this semester?

- Yes
- No

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Source: <https://www.risc.college/view-survey>

Asking questions better

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0%  100%

How **available** were the **Academic Excellence Center** staff when you interacted with them?

- Very available
- Somewhat available
- Somewhat unavailable
- Very unavailable

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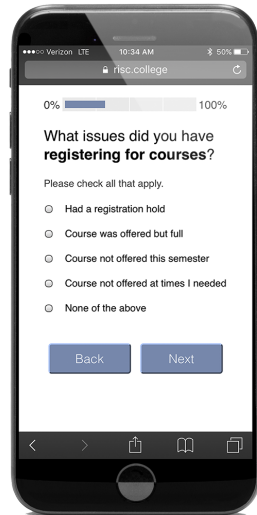
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Most students interact with web
via their phones

Surveys must be designed with
this in mind



Motivation and cognitive effort

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Liu et al. (2012) studied performance on the ETS Proficiency Profile

Two experimental conditions

- 1 Control condition: Your answers on the tests and the survey will be used only for research purposes and will not be disclosed to anyone except the research team.
- 2 Personal condition: Your answers on the tests and the survey will be used only for research purposes and will not be disclosed to anyone except the research team. **However, your test scores may be released to faculty in your college or to potential employers to evaluate your academic ability.**

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- 2 Personal condition: Your answers on the tests and the survey will be used only for research purposes and will not be disclosed to anyone except the research team. **However, your test scores may be released to faculty in your college or to potential employers to evaluate your academic ability.**

Students in the personal condition scored dramatically higher

- Research university: .40 SD
- Master's university: .37 SD
- Community college: .68 SD

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13. This section has three parts. Please answer all three sections, indicating (1) HOW OFTEN you use the following services, (2) HOW SATISFIED you are with the services, and (3) HOW IMPORTANT the services are to you AT THIS COLLEGE.

	(1) Frequency of Use				(2) Satisfaction				(3) Importance		
	Often	Sometimes	Rarely/ Never	Don't know/ N.A.	Very	Some- what	Not at all	N.A.	Very	Some- what	Not at all
a. Academic advising/planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Career counseling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Job placement assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Peer or other tutoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Skill labs (writing, math, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Child care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Financial aid advising	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Computer lab	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Student organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Transfer credit assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Services to students with disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Source: http://www.ccse.org/refresh/CCSSE_Refresh_Sample.pdf

Branching to reduce effort and shorten time

0%  100%

Let's start with the first area where you may have had a challenge.

Think about your use of **academic support services**.
Have you had any challenges in the following areas?

	Yes	No
Academic advising	<input type="radio"/>	<input type="radio"/>
Tutoring	<input type="radio"/>	<input type="radio"/>
Library	<input type="radio"/>	<input type="radio"/>
Registering for courses	<input type="radio"/>	<input type="radio"/>
Computer and science labs	<input type="radio"/>	<input type="radio"/>

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0%  100%

What issues did you have with **tutoring**?

Please check all that apply.

- Tutoring not helpful
- Tutoring hours not convenient
- Tutors not available when I need assistance
- Tutoring not available in the subject area I needed
- None of the above

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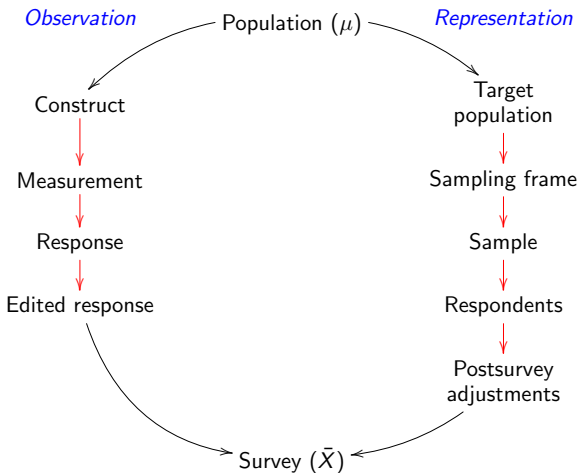
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Total survey error



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